

### Abstract:

Higher plants have evolved to produce beautiful flowers for the propagation of species through sexual reproduction. Throughout history, man has sought to produce plants for the beauty of flowers. Today, the floriculture sector of horticulture represents a significant international trade industry. Not surprisingly, the longevity of many flowers is quite short, as their biological function of reproduction is transient in nature. The senescence of floral organs is a highly regulated developmental event, often associated with the end of the useful life of an organ relative to the reproductive process. For example, flower petals' function is to attract pollinators and once pollination has occurred, petals represent an expensive metabolic sink. Removal of petals through senescence and/or abscission could benefit the growth and development of reproductive structures. In the floriculture trade, delaying the onset of senescence is the focus of a great deal of research in an effort to extend the useful life of the product. This paper summarizes our current understanding of the biochemical and molecular processes underlying senescence and describes efforts to delay the process through chemical treatments and biotechnology.